

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1- 29. (Canceled)

Claim 30. (Not entered)

Claim 31. (New) A tissue measurement system comprising a two-dimensional array of test electrodes for application to the surface of tissue under investigation, circuit means for measuring an electrical characteristic of the tissue underlying each test electrode, and means for presenting at least one value representing a physical characteristic of at least one region of tissue based upon the measured electrical characteristics.

Claim 32. (New) A system as claimed in claim 31, wherein the physical characteristic is area.

Claim 33. (New) A system as claimed in claim 32, wherein the presenting means presents a plurality of values on a display device to provide a visual map representing the physical extent of the region of tissue.

Claim 34. (New) A system as claimed in claim 31, wherein the array of test electrodes is arranged on a flexible backing of insulating material.

Claim 35. (New) A system as claimed in claim 34, wherein the array of electrodes is a rectangular array.

Claim 36. (New) A system as claimed in claim 34, wherein each test electrode is covered with a conductive gel, the resistance between adjacent test electrodes being high relative to the resistance via the gel between each test electrode and the underlying tissue.

Claim 37. (New) A system as claimed in claim 36, wherein the gel is hydrogel.

Claim 38. (New) A system as claimed in claim 34, wherein leads for the test electrodes are also disposed on the flexible backing of insulating material and covered with an insulating material.

Claim 39. (New) A system as claimed in claim 31, wherein the two-dimensional array comprises at least 25 test electrodes.

Claim 40. (New) A system as claimed in claim 31, wherein the electrical characteristic is the impedance of the tissue underlying each test electrode.

Claim 41. (New) A system as claimed in claim 31, wherein the circuit means measures the electrical characteristic by applying an alternating electrical signal between the test electrode and at least one other electrode applied to the organic body of which the tissue forms a part.

Claim 42. (New) A system as claimed in claim 41, wherein the circuit means measures the electrical characteristic by measuring the voltage between each test electrode and an adjacent reference electrode also applied to the tissue.

Claim 43. (New) A system as claimed in claim 42, wherein the reference electrode is also disposed on the flexible backing of insulating material.

Claim 44. (New) A system as claimed in claim 43, wherein a single reference electrode is common to a plurality of test electrodes.

Claim 45. (New) A system as claimed in claim 43, wherein during measurement on a given test electrode an adjacent test electrode acts temporarily as its reference electrode.

Claim 46. (New) A system as claimed in claim 41, wherein the said at least one other electrode is also disposed on the flexible backing of insulating material.

Claim 47. (New) A system as claimed in claim 41, wherein for each test electrode a measurement is made at a plurality of different frequencies.

Claim 48. (New) A system as claimed in claim 41, wherein the or each measurement is made at a frequency of from 1 milliHz to 100 kHz.

Claim 49. (New) A system as claimed in claim 31, wherein the array of test electrodes is incorporated into a wound dressing.

Claim 50. (New) A method of measuring tissue comprising applying a two-dimensional array of test electrodes to the surface of tissue under investigation, measuring an electrical characteristic of the tissue underlying each test electrode, and presenting at least one value representing a physical characteristic of at least one region of tissue based upon the measured electrical characteristics.

Claim 51. (New) A method as claimed in claim 50, wherein the physical characteristic is area.

Claim 52 (New) A method as claimed in claim 51, wherein a plurality of values are presented on a display device to provide a visual map representing the physical extent of the region of tissue.

Claim 53. (New) A method as claimed in claim 50, wherein the array of test electrodes is arranged on a flexible backing of insulating material.

Claim 54. (New) A method as claimed in claim 53, wherein each test electrode is covered with a conductive gel, the resistance between adjacent test electrodes being high relative to the resistance via the gel between each test electrode and the underlying tissue.

Claim 55. (New) A method as claimed in claim 50, wherein the two-dimensional array comprises at least 25 test electrodes.

Claim 56. (New) A method as claimed in claim 50, wherein the electrical characteristic is the impedance of the tissue underlying each test electrode.

Claim 57. (New) A method as claimed in claim 50, wherein the electrical characteristic is measured by applying an alternating electrical signal between the test electrode and at least one other electrode applied to the organic body of which the tissue forms a part.

Claim 58. (New) A method as claimed in claim 57, wherein the electrical characteristic is measured by measuring the voltage between each test electrode and an adjacent reference electrode also applied to the tissue.

Claim 59. (New) A method as claimed in claim 57, wherein for each test electrode a measurement is made at a plurality of different frequencies.

Claim 60. (New) A method as claimed in claim 50, wherein the array of test electrodes is incorporated into a wound dressing and applied to a wound.